FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Developing a Unified Intercarrier Compensation Regime	)	WC Docket No. 01-92
	)	
	)	

COMMENTS OF T-MOBILE USA, INC.

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SUMMARY

The initial steps that the Federal Communications Commission ("FCC") adopted in 2011 to reform the intercarrier compensation ("ICC") system have brought numerous benefits to the public. However, the full potential benefits of ICC reform have not been realized – and new arbitrage schemes have emerged – because the FCC did not take the additional steps towards ICC reform it originally contemplated in 2011. Since 2011, the telecommunications market and technology have changed radically so that merely taking those steps now will not bring the full potential benefits of regulatory reform to the public. To achieve its goals, the FCC instead should eliminate rules that are slowing the transition from legacy transmission platforms and services to those based fully on the Internet Protocol (the "IP Transition"). The FCC should also exercise its authority under the Communications Act of 1934, as amended, (the "Act") to create incentives for service providers voluntarily to expedite the IP Transition.

The proven efficiencies of IP-based networks and technologies will never be realized so long as carriers must continue establishing one point of interconnection ("POI") in each local access and transport area ("LATA"), leaving them no choice but to exchange traffic at hundreds, or even thousands of POIs across the country. This system forces non-incumbent carriers (“non-ILECs”) to (a) replicate an inefficient, outdated, and expensive network topography they do not want or need; and (b) route all traffic through the networks of incumbent local exchange carriers ("ILECs") or other third parties that otherwise have nothing to do with the call or transmission. Until the FCC eliminates such obstacles to efficient interconnection, the costs associated with upgrading equipment and reconfiguring networks will continue to outweigh the potential benefits. The FCC should, therefore, clear the regulatory obstacles that prevent carriers from interconnecting using only a limited number of POIs, which will accelerate the IP transition consistent with the FCC’s goals.

The FCC is uniquely able to coordinate efforts of industry and the states to address the challenges associated with migrating from one POI per LATA to a few POIs for the entire country by taking a few key steps.

First, the FCC should convene a Federal-State Joint Conference or Board to work with industry to designate one "Safe Harbor POI" per state or group of states in the location where (a) the maximum number of carriers are already interconnected and (b) there is sufficient capacity (or potential capacity) to accommodate interconnection by all other carriers in that state. New requests to interconnect at the Safe Harbor POI must be granted by any (i) ILEC or (ii) competitive carrier with a presence at the Safe Harbor POI. Existing interconnection arrangements would not be eliminated, however, unless the competitive (*i.e.*, non-ILEC) carrier in the arrangement opted to participate in the Safe Harbor POI.

Second, to promote migration to the Safe Harbor POI, the FCC should clarify its rules to eliminate ambiguity about the proper allocation of costs for interconnection arrangements where the Safe Harbor POI is located beyond (a) the LATA or (b) the ILEC's service area.

Third, the FCC should establish the following key requirements for traffic exchanged at Safe Harbor POIs:

- Interconnection at every Safe Harbor POI is deemed to be technically feasible with respect to all types of traffic on a technology-neutral basis without regard to regulatory classification;
- Each carrier is directly responsible for the legality and integrity of all traffic delivered to a Safe Harbor POI so that no carrier creates spam or other security risks for other carriers; and
- All traffic exchanged at a Safe Harbor POI (including interLATA and interstate traffic) will be treated as if it is local traffic subject to bill-and-keep for compensation and billing purposes, and no carriers will be permitted to impose usage (or other) charges for such traffic, whether for origination or termination.

Fourth, the FCC should create deregulatory incentives for carriers to interconnect at the Safe Harbor POIs. For example, Universal Service Fund ("USF") dollars should be provided where necessary to offset the costs of establishing interconnection at the Safe Harbor POI. The traffic exchanged by carriers directly interconnected at a Safe Harbor POI should also be exempt from certain reporting obligations including, for example, those relating to network outages. ILECs that exchange traffic at the Safe Harbor POI should further be exempted from certain remaining ILEC-specific regulations. The FCC should also consider streamlining the rules regarding access to poles and rights of way for providers who are interconnected to the Safe Harbor POIs.

By adopting T-Mobile's proposal (the "Safe Harbor POI Solution"), the FCC would expedite the IP Transition and unlock a wide range of consumer benefits. Chief among the potential benefits is stronger security for critical infrastructure by eliminating numerous single points of failure and improving network redundancy. The Safe Harbor POI Solution would provide a streamlined mechanism for re-routing traffic to end destinations in the event of a network failure. Furthermore, in the event of natural disasters like Hurricanes Harvey, Irma and Maria, networks would be less likely to fail in the first place and recovery would be easier. Our proposal would also benefit rural America, and all who interact with, or depend upon, rural America: consumers would experience improved call quality because the Safe Harbor POI Solution would eliminate economic incentives that lead to current rural call-completion problems. In addition, carriers exchanging traffic at a Safe Harbor POI could more easily identify, manage and reduce fraud, arbitrage, and robocalling. The public would also benefit from increased pricing competition and lower service costs due to the level playing field that this proposal would create.

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COMMENTS OF T-MOBILE USA, INC.

T-Mobile USA, Inc.[1] ("T-Mobile") is pleased that the Federal Communications Commission ("FCC" or "Commission") continues to explore ways to reform the intercarrier compensation ("ICC") system for the benefit of the public.[2] T-Mobile submits these comments to refresh the record on developments that have occurred since the *2011 ICC Transformation FNPRM*,[3] and to propose that the FCC work with the industry and the states to accomplish comprehensive reform by taking targeted steps to jumpstart the transition to Internet-Protocol based interconnection, networks and services (the "IP Transition").

The first steps that the FCC took in 2011 to reform the ICC system have brought numerous benefits to the public.[4] However, the full potential benefits of ICC reform have not

1 T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly-traded company.

2 *Parties Asked to Refresh the Record on Intercarrier Compensation Reform Related to the Network Edge, Tandem Switching and Transport, and Transit*, Public Notice, WC Docket No. 10-90; CC Docket No. 01-92; DA 17-863 (rel. Sept. 8, 2017) (the "Notice").

3 *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing an Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund*, WC Docket Nos. 10-90, 07-135, 05-337, 03-109; GN Docket No. 09-51; CC Docket Nos. 01-92 and 96-45; WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 18111-13 and 18117, §§ 1297, 1306-13, and 1320-21 (2011) ("*2011 ICC Transformation FNPRM*" or "*USF/ICC Transformation Order*").

4 *In the Matter of Connect Am. Fund A Nat'l Broadband Plan for Our Future Establishing Just & Reasonable Rates for Local Exch. Carriers High-Cost Universal Serv. Support Developing a Unified Intercarrier Comp. Regime Fed.-State Joint Bd. on Universal Serv. Lifeline & Link-Up Universal Serv. Reform -- Mobility Fund*, 26 F.C.C. Rcd. 17663, ¶ 772 (2011).

been realized – and new arbitrage schemes have emerged – because the FCC has not taken the additional steps towards ICC reform it originally contemplated in 2011.[5] Since 2011, the telecommunications market and technology have changed radically so that merely taking those steps now will not bring the full potential benefits of regulatory reform to the public.[6]

Rather than focusing narrowly on ICC reform, the FCC should eliminate the rules that are slowing the IP Transition and exercise its authority under the Communications Act of 1934, as amended, (the "Act") to create incentives for carriers voluntarily to expedite the IP Transition. Absent comprehensive reform designed to expedite the IP Transition, the harm to the public caused by arbitrage schemes, intercarrier disputes, network vulnerabilities, and obstacles preventing – or discouraging – carriers from voluntarily engaging in the IP Transition will remain, even if the FCC now adopts all the steps towards ICC reform it contemplated in 2011.

Fortunately, the FCC has sufficient authority under the Act to clear obstacles stalling the IP Transition. By promoting voluntary efforts to expedite the IP Transition, the FCC would benefit the public by eliminating several sources of intercarrier disputes, lowering the cost of providing service, and enabling carrier efforts to (a) improve call quality and network speeds everywhere (including in rural areas); (b) reduce fraud, including robocalls and phantom traffic; (c) eliminate potential sources of network failure; and (d) minimize the impact of failures on networks that serve as critical infrastructure.

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5 *See id.*

6 *In the Matter of Connect America Fund Universal Service Reform – Mobility Fund*, 32 FCC Rcd. 2152 (2017).

I. Past ICC Reform Efforts Have Both Benefited and Harmed the Public Interest

The 2011 Transformation Order (the "Order") was a critical first step in the long overdue process of overhauling the legacy ICC system.[7] The Order adopted a new framework for all terminating access, moving to a bill-and-keep model over a multi-year phase down. The bill-and-keep model was chosen because, as the Commission says, a bill-and-keep system best "advances the Commission's policy goals and the public interest, driving greater efficiency in the operation of the telecommunications networks and promoting the deployment of IP-based networks."[8] The Order also sought to curtail wasteful arbitrage practices that were harming consumers and the marketplace by establishing rules to reduce access stimulation ("traffic pumping") and phantom traffic. The FCC, however, has yet to take any of the planned next steps towards reforming other outdated aspects of the ICC system.

In the absence of further reforms, market developments since the Order have engendered additional consumer harms. Arbitragers are taking advantage of both the rules that continue to permit charges for terminating traffic and the rules that mandate bill and keep. As a result, the industry is plagued with new traffic pumping and robocalling schemes, as well as unacceptably high levels of phantom traffic.[9] While imposing bill-and-keep for all types of traffic would resolve important problems, it would not on its own resolve these schemes. Carriers have few incentives to limit the traffic they originate on the public switched telephone network ("PSTN")

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7 *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform - Mobility Fund*, WC Docket No. 10-90, Report and Order and Further Notice of Proposed Rulemaking, (2011) (*Transformation Order or Transformation Further Notice).*

8 *Id.*, ¶ 741.

9 *See, e.g.*, AT&T Services, Inc., *Petition of AT&T Services, Inc. for Forbearance Under 47 U.S.C. § 160(c)*, WC Docket No. 16-363 (filed Sept. 30, 2016) (Petition) (seeking the detariffing of tandem switching and transport access charges for all local exchange carriers (LECs), on all calls to or from LECs engaged in access stimulation). The Petition also asks that FCC forbear from enforcing rules that allow LECs to tariff a charge billed to IXCs for toll-free database queries to give LECs the incentive to provide database queries to IXCs at market-based rates.

– which generates income for them – since it costs nothing for them to terminate the traffic. Although traffic is forced to flow through the ILECs, the ILECs likewise have few incentives to address the problem with respect to third-party traffic. Even if an ILEC wanted to address the problem, the FCC's current rules, which were designed to prevent the ILECs from abusing their control over tandems and other chokepoints in the network, prohibit the ILECs from addressing the third-party traffic flowing through their networks. Therefore, robocalling, fraud, and arbitrage schemes flourish in the PSTN,[10] and they will continue to grow if the FCC merely imposes bill-and-keep for all traffic without taking additional steps to expedite the IP Transition.

Intercarrier disputes continue to serve as an unproductive drag on the industry that harms the public and distracts regulators and service providers. Arbitrary jurisdictional and regulatory classifications that serve no purpose in today's markets have led to countless intercarrier disputes. For example, certain industry players are now using outdated centralized equal access ("CEA") arrangements, which were originally intended to lower costs, for the purpose of access stimulation, which increases costs.[11] AT&T and others have challenged these practices, but the disputes languish for months or even years. Even if a court or regulator issues a decision ruling that a practice is improper, the parties responsible for the practices typically tweak them just enough to be able to claim they have addressed the impropriety, which causes the underlying intercarrier disputes to continue unabated. These and numerous other complaints and disputes

[10] Florida receives more robocalls than any other state, and the patterns of the robocalls suggest that bad actors may be seeking to target the elderly. Iowa is another hotspot for arbitrage and fraud. In fact, T-Mobile sends more traffic to Iowa than to any other state, even though Iowa is one of the least populated states. The reason for this, of course, is that arbitragers are abusing the termination rates in Iowa, which are higher than the termination rates in any other state, to generate revenue. The problem is so bad at this point that some of the largest interexchange carriers are not interested in providing service to T-Mobile (or presumably to any other carrier) for traffic that is destined for these arbitragers in Iowa unless T-Mobile pays 1,822% above the rates mandated by the Transformation Order.

[11] AT&T also filed a complaint against INS alleging that INS was improperly billing AT&T for access stimulation traffic by charging AT&T for a CEA service. AT&T alleges that the INS charges were improper because INS had not, until very recently, revised its 1988 CEA tariff to encompass access stimulation traffic. *See also Level 3 Communications, LLC, v. AT&T Inc., et. al*, EB Docket No. 17-227, File No. EB-17-MD-003 (2017).

arising from the PSTN's regulatory framework serve as distraction to, and waste the resources of, service providers and regulators. Intercarrier disputes harm the public even when they do not result in the filing of a complaint in court or before federal or state regulators because they increase the cost of providing service and distract carriers from modernizing their networks. Promptly addressing specific complaints on a case-by-case basis will lead to incremental benefits, but a piecemeal approach cannot solve the underlying problems caused by the legacy PSTN or create the incentives necessary to speed the IP Transition.

Bill-and-keep remains the best available ICC mechanism for all types of traffic, but it is not a panacea for ICC reform. Simply picking up where the FCC left off in 2011 will not accomplish the FCC's reform goals or address the obstacles that have caused the IP Transition to stall.

II. Expediting the IP Transition Is the Key to Achieving the FCC's Goals and Reaping the Full Benefits for the Public Interest of the FCC's Reform Efforts

The key to accomplishing the goals of the FCC, the states and the industry is for the FCC to jumpstart the IP Transition. The legacy PSTN framework and rules were designed for monopoly service environments and then later adapted to facilitate competition; first for long distance services and then for local services. The PSTN architecture is inefficient and vulnerable because it was created to serve the needs of a single carrier in a monopoly environment, not multiple carriers in a competitive market.

A fundamental flaw of the PSTN is that nearly all traffic must traverse the networks of the ILECs, even when the traffic is neither originated by, nor destined for, customers of the ILECs. The detrimental impact of this flaw cannot be overestimated.

First, the existing ILEC-centric PSTN creates numerous single points of failure, which could have frightening implications for national security. For example, all traffic served by an

ILEC's tandem must be routed through that tandem, which means that traffic for the area served by the ILEC's tandem will fail if the tandem itself fails. Many large carriers have built out resiliency to address this harm, but small to medium carriers that rely on ILEC tandems remain vulnerable.

Second, the current ICC regulations, developed for the legacy PSTN, force competitive carriers to build deep into the networks of the ILECs and subsidize the facility costs of the ILECs, which artificially increases the cost of providing service and creates disincentives for all carriers to engage in the IP Transition. Some carriers have become overly reliant on artificial subsidies provided by the ICC regulations for the PSTN.[12] These carriers naturally do not want to sacrifice these subsidies by transitioning to IP, which makes it harder for other carriers and service providers to transition to IP. The regulations also effectively prevent most potential competitors from deploying critical network facilities, so nearly all parties must continue to rely on the PSTN and pay the ILECs for related facilities. Consequently, the cost of providing service in the United States remains artificially inflated and the obstacles to the IP Transition remain far too numerous.

Third, as explained below by forcing traffic through the networks of unrelated third parties, the legacy PSTN gives ILECs control over the networks of their competitor and forces the ILECs to carry traffic that their customers are neither sending nor receiving. Consequently, no carrier can optimize its own network for the needs of its own customers, which can harm service and call quality, and unnecessarily increase the cost to provide service. For example, the legacy PSTN increases the risk of call failures by increasing the likelihood that traffic –

[12] These subsidies are distorting the market in ways that interfere with the IP Transition. For example, some large carriers that are ready, willing and able to enter into national peering agreements for the exchange of traffic insist on excluding traffic for which they receive PSTN-based subsidies. So long as carriers have the incentive to continue using the PSTN, the IP Transition will remain stalled in the United States.

particularly traffic originated by, or destined for, rural areas – will be handled by numerous carriers. For the same reasons, the legacy PSTN creates numerous additional opportunities for intercarrier disputes about everything from compensation to necessary facilities and interconnection methods and applicable standards. A recent trend in interconnection disputes that T-Mobile and other competitive carriers are seeing is that ILECs are forcing competitive carriers to procure more facilities from ILECs, which serves the dual purpose of permitting the ILECs (a) to avoid the costs of building out their own networks for the interconnection arrangement and (b) to generate revenue from competitive carriers for the facilities and services at issue.

In contrast to the PSTN, the Internet was designed and built by engineers from the ground up for efficient and robust connectivity among many different parties. Each party using the Internet chooses the means, manner and mode of its connectivity based on its own specific needs. Unlike the PSTN, no party is forced to route its traffic through any specific third parties. Since traffic can take many routes to its destination, the failure of any one circuit or piece of equipment is far less likely to cause outages or blocked traffic compared to the PSTN. For these reasons, once the network topography has been optimized for the exchange of IP traffic, it will be much easier for each service provider to:

- Control the type of traffic it sends to, and receives from, other service providers, which will reduce arbitrage schemes, end robocalling and eliminate phantom traffic;
- Optimize its network and network arrangements to improve service quality, which will improve call and connection quality everywhere, including in rural areas; and
- Reduce vulnerabilities in the networks by eliminating the regulatory mandate that all calls and traffic be routed through ILEC tandems.

In addition to faster, more reliable service, consumers will benefit from lower prices because carriers will incur lower costs once they no longer have to duplicate the networks of the ILECs and buy unnecessary facilities and services.

In light of the many benefits of IP-based technologies, most of the world is migrating from the PSTN to the Internet. In the United States, however, the IP Transition has stalled because of legacy ICC regulations governing interconnection and the PSTN. The IP Transition will continue at a snail's pace in the United States without further action by the FCC, which should update rules and resolve longstanding disputes about interconnection costs, as well as coordinate joint action by the FCC, the states, and the industry.

III. The FCC Should Expedite the IP Transition by Eliminating Regulatory Obstacles and Creating Incentives to Interconnect at Fewer POIs

The FCC should expedite the IP Transition by eliminating the regulatory obstacles to the IP Transition and creating incentives for service providers to participate in the IP Transition. Once service providers transition to a network topography that is optimized for the exchange of IP traffic, it will be easier for the industry to manage the types of traffic that are exchanged through peering arrangements.

The proven efficiencies of IP-based networks and technologies cannot be realized while carriers have to establish one POI per LATA -- a system that forces many carriers today to exchange traffic at tens, hundreds, or even thousands of POIs. Until carriers are able to reap the full benefits of IP-based networks and technologies, the costs associated with upgrading equipment and reconfiguring networks frequently will outweigh the potential benefits. This is one of the main reasons why the IP Transition is stalled in the United States despite the great progress made in other countries. The IP Transition will succeed in the United States only if carriers are able to efficiently exchange all traffic at a few POIs across the nation.

The industry on its own will not be able to reduce the number of POIs. Action by the FCC is necessary for several reasons. First, no single carrier, or even trade association of carriers, is in a position to successfully coordinate the efforts of the entire industry, the FCC, and

the state public utility commissions to migrate from one POI per LATA to a few POIs for the entire country. Second, the FCC's rules are ambiguous with respect to the proper allocation of costs for interconnection arrangements where the POI is beyond the LATA or the ILEC's service area. Carriers will not migrate to a few POIs for the entire country if they do not know how the related interconnection costs will be allocated (or recovered). Third, some smaller rural carriers may need support to offset the costs associated with a migration from one POI per LATA to a few POIs for the entire country, which no carrier or trade association could provide on its own. The FCC is uniquely able to lead and oversee coordinated efforts among the industry and the states to address each of the challenges, and it has the authority under the Act to do so.[13]

T-Mobile proposes that existing interconnection arrangements should not be eliminated unless the competitive (*i.e.*, non-ILEC) carrier elects to participate in the Safe Harbor POI. New requests to interconnect at the Safe Harbor POI could not be refused by any carrier. ILECs would have to connect directly or indirectly at the Safe Harbor POI based on the preference of the requesting carrier. ILECs[14] and competitive carriers that have a presence at a Safe Harbor POI would have to interconnect at the Safe Harbor POI upon request by any other competitive carrier, but they could choose to interconnect indirectly rather than directly regardless of the preference of the requesting carrier.

Several important benefits would result from identifying Safe Harbor POIs, clarifying the allocation of costs for interconnecting to the Safe Harbor POIs, and establishing a deregulatory

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13 *See, e.g., Nat'l Ass'n of Regulatory Utility Comm'rs, NARUC Federalism Task Force Report: Cooperative Federalism and Telecom In the 21st Century* (Nov. 2013) (advocating greater cooperation and coordination among federal and state regulators).

14 Any carrier that is (a) affiliated with an ILEC, (b) in a business arrangement with an ILEC for the exchange of traffic, (c) owned in any way by an ILEC, or (d) in any other type of relationship with an ILEC which would permit the ILEC to evade participation in the Safe Harbor POI would be deemed to be the ILEC or a CLEC with a presence at any Safe Harbor POI where the ILEC at issue has received a request to interconnect at the Safe Harbor POI.

set of incentives to encourage carriers voluntarily to interconnect at the Safe Harbor POIs. The Safe Harbor POI Solution would immediately make it possible for all requesting carriers to interconnect with every ILEC within a state at a single POI, so the full benefits of the IP transition could be realized much more quickly. This result would be consistent with the goals of various FCC Commissioners, including Chairman Pai, who for years has "been calling on the FCC to expedite the IP Transition, to end the burdensome regulations that tie up carrier resources and slow the deployment of next-generation networks."[15] The Safe Harbor POI Solution would also be consistent with the goal of eliminating two regulations[16] for every one adopted since participating carriers would be exempted from existing regulations that would no longer be needed, and the approach would not require the adoption of extensive new regulations.[17]

A. The FCC Should Work with the States and the Industry to Designate the Safe Harbor POIs

The industry will not be able to migrate from one POI per LATA to no more than a few dozen POIs for the entire country until the locations for the new POIs are determined. The FCC should work with the industry and the states to designate no more than one Safe Harbor POI for

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15 *FCC Streamlines Approval Process for Network Technology Transitions*, 2016 WL 3906038, 6 (OHMSV July 14, 2016); *see also, e.g., id.* (quoting Commissioner Pai as stating that, "[i]n a world where consumers are embracing the IP Transition in growing numbers each and every day, this agency shouldn't be timid - and yet we are."); *id.* at 2 (quoting then Chairman Wheeler as stating that "[t]he move from traditional circuit-switched voice services running on copper loops to all-Internet Protocol (IP) multi-media networks offers the possibility of better performing and lower priced phone service for consumers.").

16 *See* Exec. Order No. 13771, 82 FR 9339 (January 30, 2017) ("Section 1. Purpose. It is the policy of the executive branch to be prudent and financially responsible in the expenditure of funds, from both public and private sources. In addition to the management of the direct expenditure of taxpayer dollars through the budgeting process, it is essential to manage the costs associated with the governmental imposition of private expenditures required to comply with federal regulations. Toward that end, it is important that for every one new regulation issued, at least two prior regulations be identified for elimination, and that the cost of planned regulations be prudently managed and controlled through a budgeting process.").

17 *See id.*; *see also Statement of Ajit Pai, Subcommittee on Financial Services and General Government of the United States Senate Committee on Appropriations*, Mar. 27, 2014, 6 ("Removing regulatory barriers to the deployment of infrastructure is another Commission priority. To give entrepreneurs, investors, and innovators the regulatory certainty they need to invest in next-generation infrastructure, we need to make sure that we are not saddling them with last-generation rules. That means hastening the IP Transition and facilitating wireless infrastructure deployment.").

each state. The states, FCC, and industry must work together to address critical issues like the best locations for the Safe Harbor POIs, and such collaboration is fundamental to the Act. In fact, to encourage federal and state collaboration, Section 410 of the Act authorizes the FCC to convene Federal-State Joint Conferences or Federal-State Joint Boards to evaluate issues and recommend solutions to problems.[18] The FCC, therefore, could exercise its authority under Section 410 to convene a Federal-State Joint Conference or Board to work with industry to designate Safe Harbor POIs.

Once convened, such a Federal-State Joint Conference would seek to locate the Safe Harbor POIs where the maximum number of carriers are already interconnected and there is sufficient capacity – or capacity could be readily upgraded - to handle interconnection by all other carriers currently interconnected in that state. Based on the criteria set by the FCC, the Federal-State Joint Conference or Board could recommend a single Safe Harbor POI for multiple states. Ideally, the entire country would be served by a maximum of 8 to 15 Safe Harbor POIs, but the best way to determine both the total number and location of Safe Harbor POIs is through joint work among the industry, the FCC, and the states as part of the Conference or Board. The Conference or Board should also be tasked with identifying a primary and secondary fallback Safe Harbor POI for each Safe Harbor POI to facilitate the coordination of redundancy and disaster recovery planning.

The goal of the Federal-State Joint Conference or Board would be to identify the Safe Harbor POIs as quickly possible so that carriers could begin establishing interconnection arrangements at the Safe Harbor POIs. Importantly, the FCC would not order any carrier to abandon any of its current interconnection arrangements or to establish a new interconnection

[18] 47 U.S.C. §410. *See, e.g., Federal-State Joint Conference on Advanced Telecommunications Services*, Order, CC Docket No. 99-294, FCC 99-293 (rel. Oct. 8, 1999) (convening Federal-State Joint Conference or Board on Advanced Telecommunications Services).

arrangement at a Safe Harbor POI. Each competitive carrier should be free to decide, based upon its own circumstances, whether to request interconnection from one or more ILECs or other competitive carriers at one or more Safe Harbor POIs. Upon receiving a request to interconnect at a Safe Harbor POI, each ILEC and competitive carrier that has a presence at the Safe Harbor POI would have to interconnect – directly or indirectly at its sole discretion – with the requesting carrier at the Safe Harbor POI.[19] All competitive carriers would be free to continue using existing interconnection arrangements with ILECs, and all carriers, including ILECs, would be free to enter into voluntary interconnection arrangements for exchanging traffic outside of the Safe Harbor POIs. Any disputes regarding interconnection at the Safe Harbor POI would remain subject to the procedures of Section 252 of the Act.[20]

B. The FCC Should Clarify its Rules Regarding Allocation of Costs to Connect to a Safe Harbor POI

The proper allocation of costs for delivering traffic to Safe Harbor POIs must be clarified if the IP Transition is to succeed. The FCC's rules for establishing and paying for interconnection arrangements are relatively well settled for arrangements between competitive carriers and ILECs in which competitive carriers establish at least one POI per LATA within the service area of the ILEC. As the FCC has explained,

> Under the Commission's rules, competitive [carriers] may request interconnection at any technically feasible point. This includes the right to request a single point of interconnection in a LATA. The Commission's rules implementing the reciprocal compensation

[19] An ILEC would have to interconnect with the requesting carrier at the Safe Harbor POI in order to satisfy the ILEC's obligations under Section 251(c) of the Act. 47 U.S.C. §251(c). In order to ensure that all ILEC-related traffic is exchanged at the Safe Harbor POI where the ILEC has received a request for interconnection, the duty to participate in the Safe Harbor POI would be extended to include any carrier that is (a) affiliated with an ILEC, (b) in a business arrangement with an ILEC for the exchange of traffic, (c) owned in any way by an ILEC, or (d) in any other type of relationship with an ILEC which would otherwise permit the ILEC to evade participation in any Safe Harbor POI where the ILEC at issue has received a request to interconnect at the Safe Harbor POI.

[20] 47 U.S.C. §252.

> provisions in section 252(d)(2)(A) prevent any LEC from assessing charges on another telecommunications carrier for telecommunications traffic subject to reciprocal compensation that originates on the LEC's network. Furthermore, under these rules, to the extent an incumbent LEC delivers to the point of interconnection its own originating traffic that is subject to reciprocal compensation, the incumbent LEC is required to bear financial responsibility for that traffic.[21]

The FCC has also made clear that Section 251(c)(2) of the Act "allows competing carriers to choose the most efficient points at which to exchange traffic with incumbent LECs, thereby lowering the competing carriers' costs of, among other things, transport and termination of traffic."[22] ILECs must "adapt their facilities to interconnection or use by other carriers," and "accept the novel use of, and modification to, its network facilities to accommodate the interconnector."[23] "By its terms, this duty only extends to [ILECs] and is only triggered on request" by a competing carrier.[24] The basic framework established by the Act is strong, but a few key questions regarding cost allocation for interconnection arrangements have remained open for decades. Specifically, the rules are not clear about who must pay for interconnection

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[21] *In re WorldCom, Inc*., 17 FCC Rcd. 27039, 27064, ¶52 (2002) (footnotes omitted). Cost considerations cannot force competitive carriers to increase the number of POIs with an ILEC's network. *See, e.g., W. Radio Servs. Co*., 678 F.3d at 981 ("Purely 'economic ... concerns,' however, play no role in the determination of technical feasibility." (internal citations omitted)).

[22] *First Report and Order, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, 1996 WL 452885 (1996), modified, 1996 WL 557116 (1996), *partially vacated, Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir.1997), *rev'd in part, AT&T v. Iowa Utils. Bd*., 525 U.S. 366, 119 S. Ct. 721, 142 L.Ed.2d 835 (1999). The ILEC's duty to provide interconnection is triggered so long as the request by the competing carrier is "technically feasible." The FCC has determined that "technical feasibility" does not include consideration of economic, accounting, or billing concerns. 47 C.F.R. §§ 51.5, 51.305(a), 51.321.

[23] *Id*. at ¶ 202.

[24] *Atlas Telephone Co. v. Oklahoma Corp. Comm'n*, 400 F.3d 1256, 1256 (10th Cir. 2005) (emphasis in original). *MCI Telecomm. Corp. v. Bell Atl. Pennsylvania* provided further clarification on this principle. In that case, the Third Circuit considered whether an incumbent LEC could direct a CLEC to "take access at several additional points in the network, to interconnect at multiple points within the LATA, even if [the CLEC] does not want to do so." 271 F.3d at 517. The court found that "[t]he decision where to interconnect and where not to interconnect must be left to [the CLEC], subject only to concerns of technical feasibility." Id. at 518 (emphasis added).

arrangements when the competitive carrier is requesting (a) less than one POI per LATA, or (b) a POI located outside of the ILEC's service territory. The key question is whether specific costs associated with interconnection constitute permissible interconnection costs that the ILEC can recover from the requesting competitive carrier or impermissible originating costs that the ILEC must recover from its own customers. Various court decisions and FCC rulings are inconsistent in answering this question,[25] which makes it unclear about who would pay the costs to connect to Safe Harbor POIs. Without clarity, no competitive carriers would risk being the first to request interconnection at Safe Harbor POIs.[26] For this reason, providing clarity regarding cost allocation is a critical first step towards facilitating the IP Transition. Accordingly, the FCC should adopt the following two clarifications of its current rules:

- When a competitive carrier requests interconnection with any other carrier (including an ILEC) at a Safe Harbor POI, each carrier is responsible for the cost of the interconnection facilities on its side of the Safe Harbor POI (which would be the same result as if the Safe Harbor POI were located on the ILEC's network within the relevant LATA); and

- When a competitive carrier requests interconnection from an ILEC anywhere other than at the Safe Harbor POI or on the ILEC's network within the relevant LATA, the competitive carrier is solely responsible for the cost of the facilities on its side of the POI plus the cost for the facilities between the requested POI and either (a) the Safe Harbor POI or (b) a POI on the ILEC's network within the nearest LATA, whichever costs less.

The first clarification creates incentives for all carriers to interconnect at a single POI that is not tied to the PSTN topography, which gives carriers the freedom to design their own networks to be as efficient as possible using IP topography. The second clarification creates disincentives for competitive carriers to force ILECs to establish numerous new POIs at different locations, which

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[25] *See, e.g., TSR Wireless, LLC*, 15 F.C.C. Rcd. 11166 (2000) (holding that LECs may not impose charges upon CMRS providers for facilities used to deliver LEC-originated traffic); *see also, e.g., Mountain Commc'ns, Inc. v. F.C.C.*, 355 F.3d 644, 646-49 (D.C. Cir. 2004) (discussing inconsistencies among various FCC rulings, the FCC's rules and the Act regarding the proper allocation of interconnection-related costs).

[26] In the absence of clarification by the FCC, a competitive carrier would have to engage with, and potentially litigate against, every ILEC in Section 252 arbitration proceedings in each state across all 50 states in order to gain legal support for any interconnection cost allocation position that the ILECs oppose.

would be inefficient and make it harder for ILECs to participate fully in the IP Transition. Once the FCC has made these two clarifications, carriers will be able to determine with certainty the costs they will incur to interconnect at the Safe Harbor POIs before they migrate.

C. The FCC Should Establish a Few Key Requirements for Traffic Exchanged at the Safe Harbor POI

The FCC should maximize the potential benefits that the public could reap from the IP Transition by establishing a few simple, but critical, requirements for traffic exchanged at the Safe Harbor POIs. These requirements would reduce the interconnection-related burdens for carriers, the states, and the FCC itself.

First, the FCC should clarify that interconnection at every Safe Harbor POI is deemed to be technically feasible, and that all types of traffic can be exchanged at Safe Harbor POIs without regard to the application with which the traffic is associated. These clarifications would reduce the risk that the states will be forced to waste resources by conducting arbitration proceedings required by Section 252 of the Act to resolve disputes about frivolous denials of interconnection requests.

Second, the FCC should require each carrier to take commercially reasonable efforts to ensure the legality and integrity of all traffic it delivers to a Safe Harbor POI (whether via direct or indirect connection), including cooperating in the investigation and monitoring of traffic exchanged at such Safe Harbor POI so that no participating carrier is able to spam, or create network security risks for any other carrier participating at a Safe Harbor POI. This requirement would make Safe Harbor POIs an even more effective weapon in the FCC's arsenal against network security breaches, spam, and robocalling, since carriers exchanging traffic at Safe Harbor POIs would be managing their own traffic and engaging directly with other carriers at that POI. Safe Harbor POIs could also become the testing ground for SHAKEN to ensure that all

traffic is originated from trusted carriers.[27] Any carrier unable or unwilling to take full responsibility for the traffic it delivers to the Safe Harbor POIs would have to find alternative measures for delivering the traffic to other carriers. Specifically, these carriers, as well as any carriers caught violating the requirements for participating in the Safe Harbor POIs, would not be permitted to deliver traffic to the Safe Harbor POI, but still would be required to continue accepting traffic at the Safe Harbor POIs from other carriers.

Third, all traffic exchanged at a Safe Harbor POI (including interLATA, interMTA and interstate traffic) should be treated as if it were local traffic subject to bill-and-keep for compensation and billing purposes, and no carriers should be permitted to impose usage charges for the origination or termination of any traffic exchanged at a Safe Harbor POI. Imposing bill-and-keep for all traffic exchanged at Safe Harbor POIs is consistent with the FCC's original reform plans that the courts have upheld.[28] There simply is no valid reason to apply legacy ICC rules after the IP Transition, particularly because the combination of a streamlined IP interconnection framework with bill-and-keep would largely eliminate the financial incentives for engaging in these harmful practices.

The FCC has the authority to adopt these minimal requirements. As the Supreme Court concluded when it rejected challenges to the agency's First Report and Order regarding local competition in 1996, the FCC's authority to carry out provisions of the Act is not limited to "interstate and foreign" matters, but rather includes the authority to implement rules regarding

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[27] *See In the Matter of Call Authentication Tr. Anchor*, 32 F.C.C. Rcd. 5988 (2017) (requesting input on what the FCC should do to promote the adoption and implementation of authentication frameworks, including the "SHAKEN" (Secure Handling of Asserted information using toKENS) proposed governance system adopted by the Alliance for Telecommunications Industry Solutions (ATIS) and the SIP Forum).

[28] *See AT & T Corp. v. Iowa Utilities Bd.*, 525 U.S. 366 (1999) (holding that the FCC has rulemaking authority to carry out provisions of Communications Act of 1934, which include local competition provisions added by the Telecommunications Act).

local and intrastate traffic.[29] As the FCC concluded in its 2011 Transformation Order, the agency has the "authority, *independent of its traditional interstate rate-setting authority* in section 201, to establish bill-and-keep as the default compensation arrangement for all traffic subject to section 251(b)(5), including intrastate traffic."[30] The FCC likewise may use its "traditional interstate rate-setting authority" to implement an interstate ICC rate reduction to zero as an inducement benefit for Safe Harbor POI participation. The FCC's rulemaking authority in Section 201(b) also "explicitly gives the FCC jurisdiction to make rules governing matters to which the 1996 Act applies," and thereby authorizes the adoption of rules to implement a rate reduction for ICC transport costs.[31] Accordingly, requiring that all traffic exchanged at Safe Harbor POIs be treated like local traffic subject to bill-and-keep falls well within the FCC's authority under the Act.

D. The FCC Should Create Additional Incentives for Carriers to Interconnect at the Safe Harbor POI

Carriers that establish interconnection arrangements at Safe Harbor POIs should receive additional federal deregulatory benefits in the area covered by the Safe Harbor POI. The reliance on deregulatory incentives to encourage carriers to interconnect to Safe Harbor POIs would both increase the potential benefits of the Safe Harbor POIs and further the goal of President Trump and the FCC of repealing existing, unnecessary regulations.[32]

Such incentives might include universal service funding to offset the costs of establishing a direct interconnection at the Safe Harbor POI. Where the costs that carriers would have to incur

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29 *Id.*, 378.

30 *In the Matter of Connect Am. Fund A Nat'l Broadband Plan for Our Future Establishing Just & Reasonable Rates for Local Exch. Carriers High-Cost Universal Serv. Support Developing a Unified Intercarrier Comp. Regime Fed.-State Joint Bd. on Universal Serv. Lifeline & Link-Up Universal Serv. Reform -- Mobility Fund*, 26 F.C.C. Rcd. 17663 at ¶ 772 (2011) (emphasis added).

31 *See id.*

32 *Supra* fn. 16.

to interconnect at the Safe Harbor POIs are too high, USF monies to offset those costs and expedite the IP transition would be appropriate and consistent with the goals of Section 254 of the Act. At a minimum, the FCC should consider providing support to offset some or all of any special construction costs incurred by rural ILECs to establish a direct interconnection at the Safe Harbor POI to the extent the costs exceed the financial benefits that the carrier will reap from interconnecting directly to the Safe Harbor POI. The support could be provided by USF, or it potentially could take the form of an exemption from USF contribution requirements.

The traffic exchanged by carriers directly interconnected to a Safe Harbor POI should also be exempted from certain reporting obligations, including, for example, those relating to network outages. Reporting exemptions would be particularly appropriate when the reports would no longer be necessary in light of the benefits of the new IP-based network topography, including participating carriers' greater control over traffic and network quality, and the ease with which traffic exchanged at Safe Harbor POIs can be monitored. To the extent good cause exists for maintaining certain aspect of reports for participating carriers, the FCC should streamline the reporting obligations for these carriers to include only the information that is still needed in light of the advantages of direct connection at the Safe Harbor POI.

ILECs that exchange traffic at the Safe Harbor POI using a direct interconnection could further be exempted from certain remaining federal common carrier regulations for those ILECs. For example, the FCC could exempt these ILECs from certain copper retirement rules in the area

covered by the associated Safe Harbor POI.[33] Specifically, the FCC could limit the disclosure requirement to the minimum necessary to provide notice of changes to competitive carriers, customers, states and tribes that will impact them directly, and provide more flexibility regarding the means for providing the notice so long as the notice remains effective.[34]

The FCC could also consider streamlining the rules regarding access to poles and rights of way for providers who are interconnected directly to the Safe Harbor POIs.[35] Specifically, the FCC should consider: (a) streamlining the time frames for gaining access to utility poles;[36] (b) limiting the make-ready fees charged by utilities to new attachers; (c) ensuring by rule that pole attachers are not charged multiple times for capital costs; (d) establishing a presumptive requirement that incumbent LECs should pay a pole attachment rate using the telecommunications rate formula; (e) establishing a 180-day shot clock for FCC consideration of pole attachment complaints; and (f) permitting ILECs to demand reciprocal access on other LEC-owned poles. In addition to creating incentives for carriers to interconnect directly to Safe

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33 S*ee* 47 C.F.R. § 51.332 (2016), 47 C.F.R. § 51.333 (2016), and 47 C.F.R. § 51.325 (2016). *See also In the Matter of Technology Transitions,* 30 F.C.C. Rcd. 9372, 9383 (2015). *See also* 82 FR 47161, 47161 (2017) ("In August 2015, the Commission adopted new rules concerning certain information collection requirements implemented under section 251(c)(5) of the Act, pertaining to network change disclosures. The changes to those rules apply specifically to a certain subset of network change disclosures, namely notices of planned copper retirements. The changes are designed to provide interconnecting entities adequate time to prepare their networks for the planned copper retirements and to ensure that consumers are able to make informed choices. In July 2016, the Commission revised § 51.329(c) of its network change disclosure rules to make available to filers new titles applicable to copper retirement notices.").

34 *See* 47 CFR 1.1403(c) (requiring utilities to provide a cable television system operator or telecommunications carrier no less than 60 days written notice prior to "(1) [r]emoval of facilities or termination of any service to those facilities, such removal or termination arising out of a rate, term or condition of the cable television system operators of telecommunications carrier's pole attachment agreement; (2) [a]ny increase in pole attachment rates; or (3) [a]ny modification of facilities other than routine maintenance or modification in response to emergencies.").

35 47 U.S. Code § 224(b) (1996). *See In the Matter of Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment, Notice of Proposed Rulemaking, Notice of Inquiry, and Request For Comment,* WC Docket No. 17-84, (rel. Apr. 21, 2017). *See also* Deborah J. Salons, FCC, Broadband Deployment Advisory Committee, Summary: Wireline Infrastructure Item at 4 (Apr. 21, 2017) (outlining options for streamlining pole attachment procedures).

36 47 CFR § 1.1403-1.1425 (2015).

Harbor POIs, the streamlined rules would make it easier for participating carriers to optimize their networks for IP-based technologies and expedite the IP Transition.

These deregulatory measures would create strong incentives for carriers to voluntarily migrate to a more efficient network topography, which is far preferable to adopting a new regulatory scheme that mandates participation. For the same reasons, the states could consider providing similar deregulatory benefits to increase the incentives for carriers to establish interconnection arrangements at Safe Harbor POIs. The FCC could encourage further coordination of federal and state efforts on this issue by asking the Federal-State Joint Conference or Board charged with designating the Safe Harbor POIs to engage in cooperative federalism by considering ways to coordinate federal and state efforts to expedite the IP Transition.

E. The Safe Harbor POI Solution Would Bring a Myriad of Consumer Benefits

Outdated legacy PSTN regulations are stalling the IP Transition and depriving consumers of the plethora of benefits that will be available after the IP Transition. First, the public would benefit from improved security for our national critical infrastructure through the elimination of numerous single points of failure and improving network redundancy. The establishment of Safe Harbor POIs would promote network security and redundancy, as an IP architecture modeled after the Internet architecture can rely on designated secondary Safe Harbor POIs in other states or regions if compromised, which would create a streamlined mechanism for rerouting traffic to end destinations in the event of a network failure. In short, in the event of natural disasters like Hurricanes Harvey, Irma and Maria, the network would be less likely to fail in the first place, and recover more quickly. Rural America, and everyone who interacts with or depends on rural America, also would benefit because the Safe Harbor POI Solution would help to mitigate rural

call-completion issues by eliminating network topographies and economic incentives that cause poor call quality.

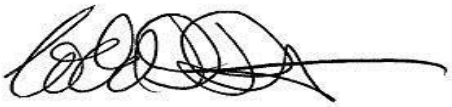
Second, the public would also benefit because it will be much easier for all carriers exchanging traffic at a Safe Harbor POI to identify and manage fraud, arbitrage, and robocalling. Combined with a prohibition by the FCC against sending this type of traffic to Safe Harbor POIs, the ability by participating carriers to more easily identify and manage their traffic will lead to less nuisance traffic on the networks of carriers serving the public.

Third, the public would further benefit from increased pricing competition and lower service costs due to the level playing field that the Safe Harbor POI Solution would create. The efficient network design and architecture of the Safe Harbor POI Solution would facilitate competition among existing carriers and lower market entry barriers for new carriers. Rather than forcing all carriers to replicate the same network, the Safe Harbor POI Solution would treat all carriers equally and permit each carrier to optimize its own network to serve the needs of its own customers, which would foster innovation, an increased focus on customer service, and competition in the marketplace. The Safe Harbor POI Solution would lower the cost of providing service by reducing the cost of interconnecting with other carriers, the cost of building networks since no carriers would be forced to replicate the network of the ILECs, and the cost of regulatory compliance since participating carriers would receive deregulatory benefits. Over the longer term, the Safe Harbor POI Solution would also facilitate the elimination of several outdated regulations that were originally designed in a monopoly marketplace, and that have no place in today's market. Therefore, the FCC should expedite the IP Transition and begin to unlock the full range of consumer benefits that the IP Transition makes possible by adopting the Safe Harbor POI Solution.

IV. Conclusion

For the reasons set forth above, the FCC should work with the industry and the states to implement the Safe Harbor POI Solution that T-Mobile has proposed in these comments. The Safe Harbor POI Solution is the best way to jumpstart the stalled IP Transition and achieve the FCC's goals of securing the full range of associated benefits for the public.

Respectfully submitted,



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